

Visual Inspection Report
RICH FM Reflector
Serial Number FM-00102

The following is a visual inspection Report for the RICH Flight Model Mirror (FM) for the AMS-02. The FM was produced according to the ICD drawings and Procurement Specifications for the Flight Model mirror. The following is a description of the FM and the details relating to the visual appearance of such

Mirror Surface

Replicated Features The surface of the EM has many characteristic of the mandrel replicated into it. The main replicated features are a crosshatch pattern of 5mm long scratches from the grinding and polishing process of the mandrel fabrication. Also, a waviness of the surface scaled to approximately 5 mm is evident and is also from the grinding and polishing process of the mandrel fabrication.

Surface Voids

One significant void in the surface measuring about 10.5 mm in diameter is present on reflector segment 1. There is also present at the extreme top edge of the FM segment 3 a void 27mm X 3mm. Two 1 mm diameter voids are also present on segment 1 and 2, but they represent a total of only 1.5 mm². The total void surface area of the entire FM surface is 172 mm². See attached Void Report.

Post-Surface Features The FM has two scrapes on segment 3, which were a result of making contact at the edge of the adjacent mirror during assembly. They appear to be slight scuffmarks on the surface near the position of number 2 and number 3 mirror interface.

Flanges

The base flange is produced from 2 layers of flange sections. Two of the 12 top layers are slightly smaller than the rest causing a small step in the alignment of the adjacent flange segments. It is structurally insignificant.

Inserts

No outstanding features or flaws are present.

Surface Void Report



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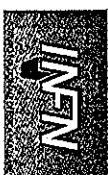


Robert, please drag the red circle in
slides 3-4-5 to show voids position and
write the void area estimation

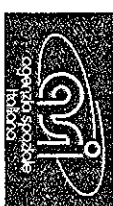
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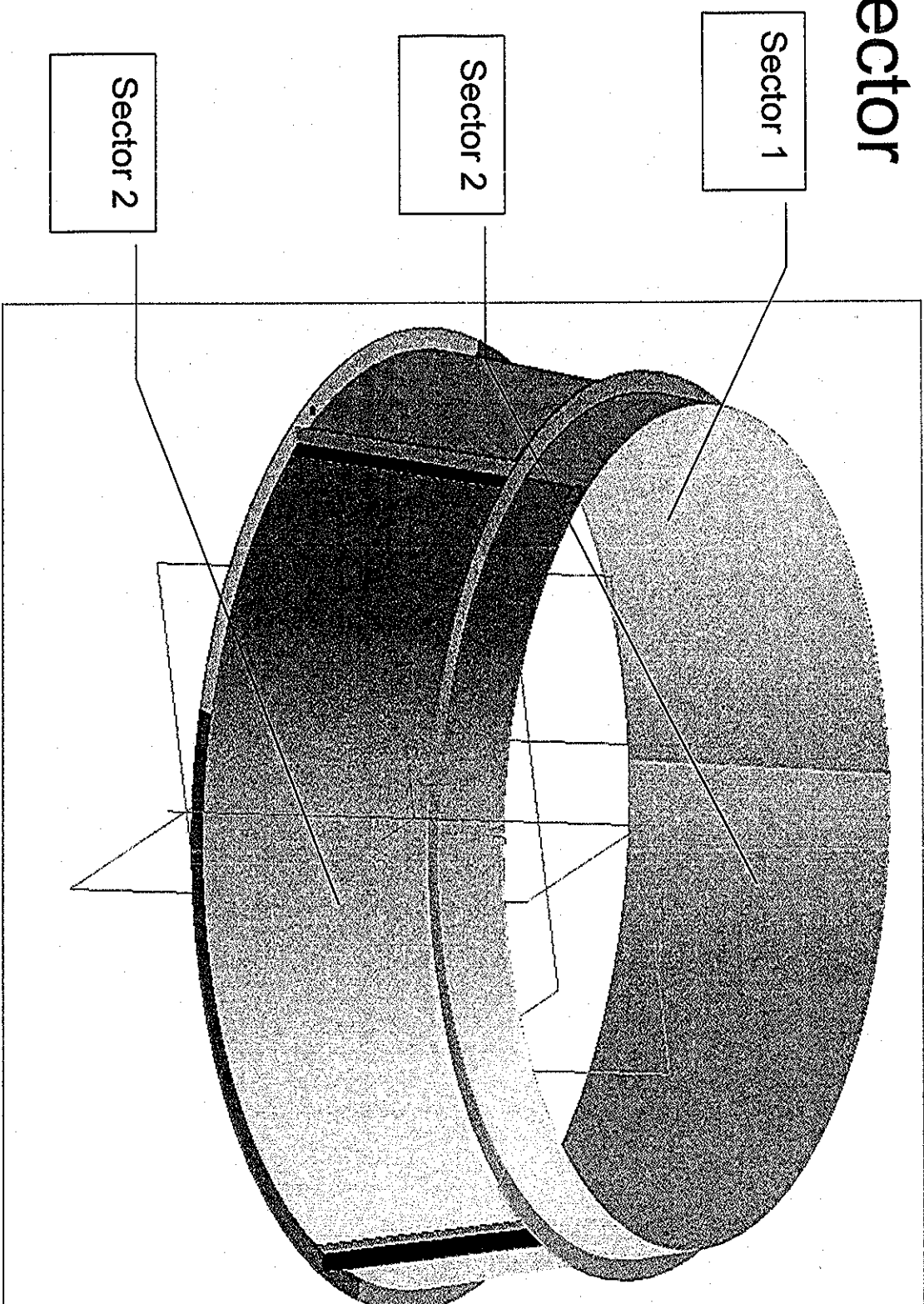
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FM reflector



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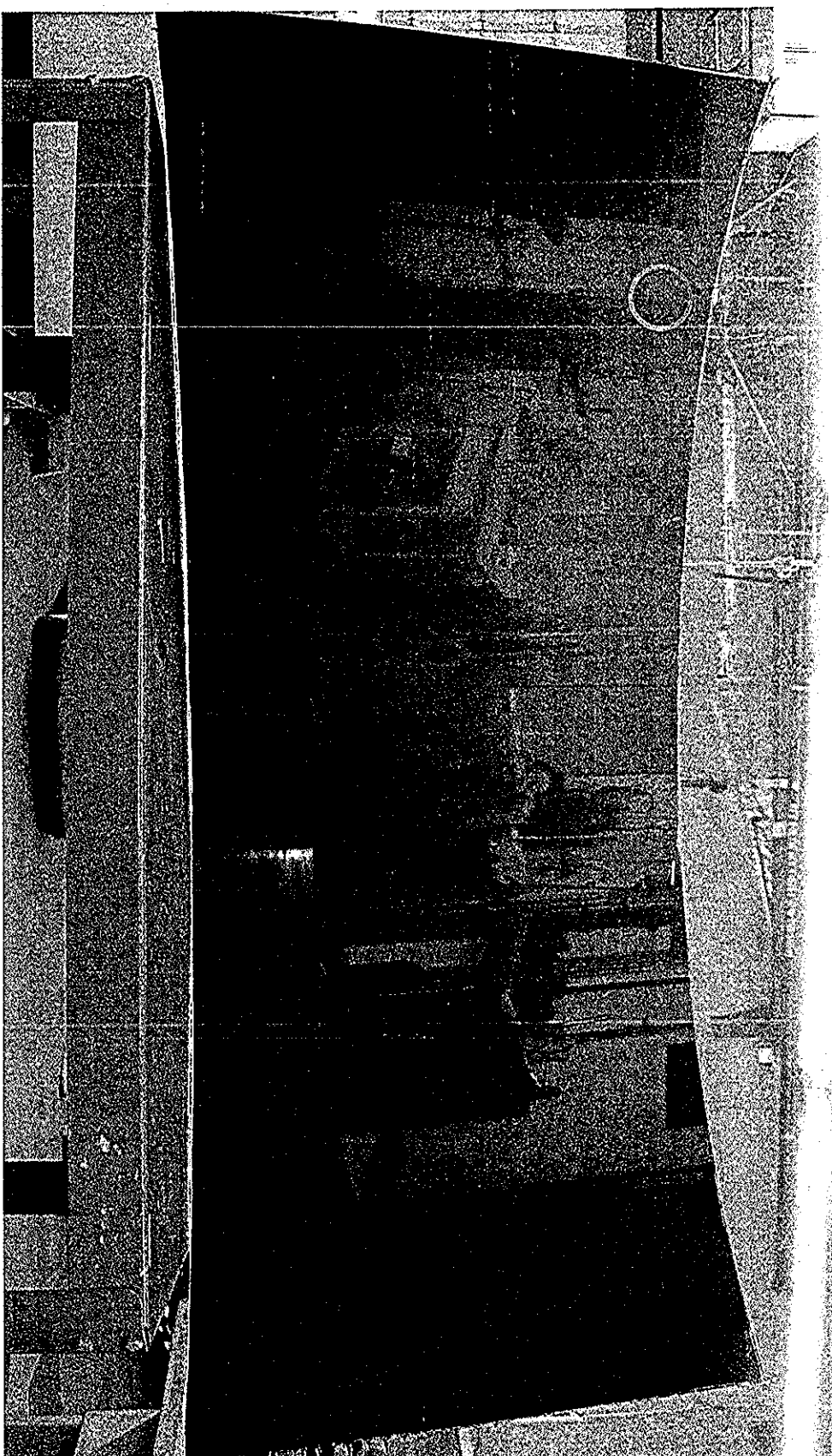


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FM sector 1

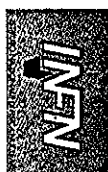
Void area = 0.78 mm²



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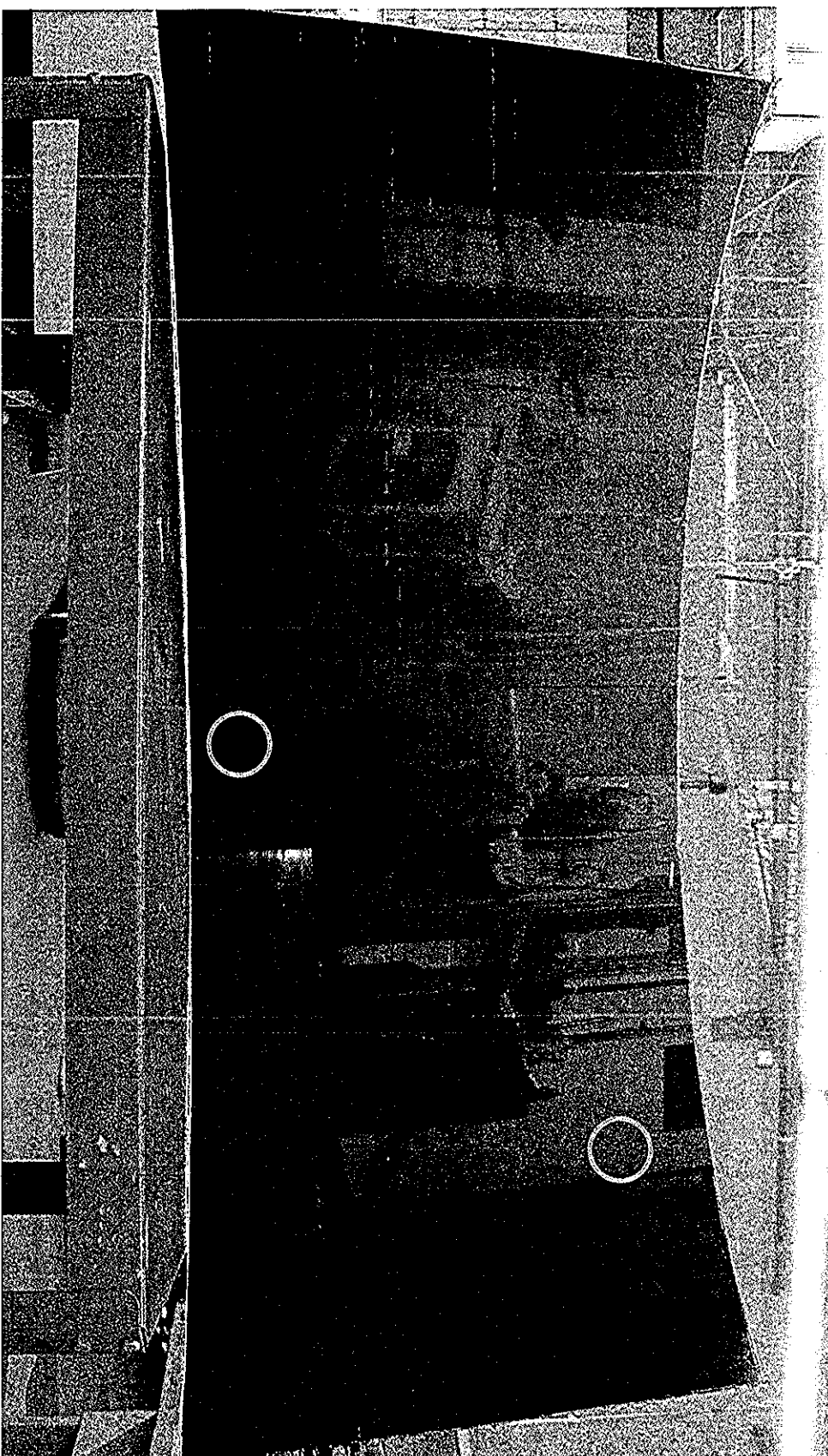


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FM sector 2

Void area = 87mm²



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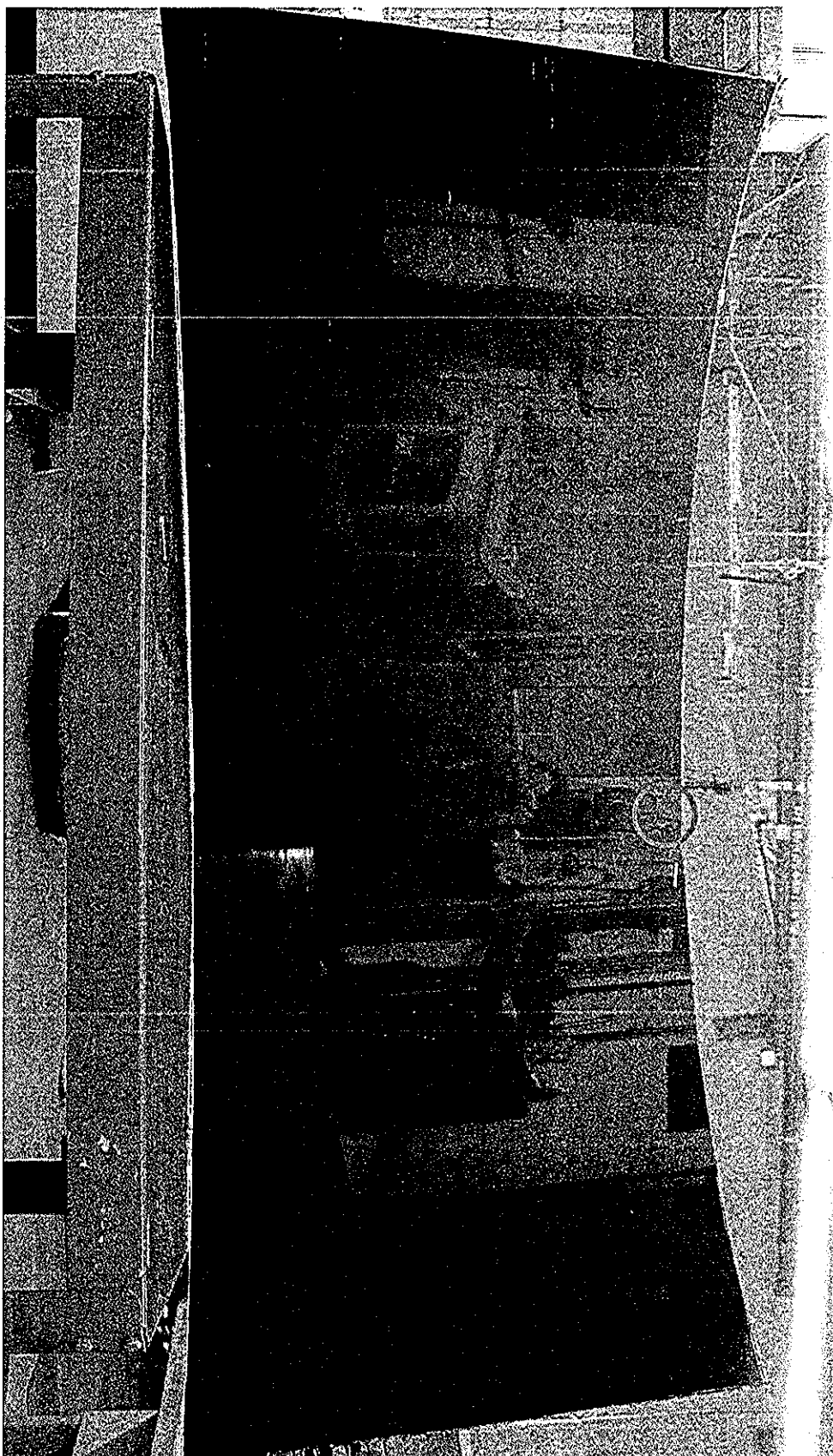


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FM sector 3

Void area = 84 mm²



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